



United States Department of the Interior
Fish and Wildlife Service



Bloomington Field Office (ES)

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January 10, 2007

Mr. Robert Waltz
Indiana DNR, Division of Entomology and Plant Pathology
402 West Washington Street, Room 290
Indianapolis, Indiana 46204

Dear Mr. Waltz:

The U.S. Fish and Wildlife Service (FWS) has reviewed your letter of December 15, 2006 regarding the 2007 gypsy moth treatment program for 22 sites in 6 Indiana counties (Allen, Delaware, Elkhart, Marshall, Porter, Whitley). We are submitting the following comments on the 2007 program.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of 1969, the Endangered Species Act of 1973, and the U. S. Fish and Wildlife Service's Mitigation Policy.

The plan submitted in your letter includes aerial spraying of mating disruption pheromone flakes (Disrupt II) at 3 sites (22,786 acres), aerial spraying of *Bacillus thuringiensis* biological control (Btk) at 13 sites (7620 acres), all with federal funding assistance. Additionally, ground application of Dimilin to selected trees is proposed at 6 sites. Dimilin application in 2007 is a State of Indiana action with no federal funding assistance.

Endangered butterflies

One of the proposed treatment methods, spraying with *Bacillus thuringiensis* (Bt), is of concern for 2 federally endangered species of Lepidoptera in Indiana, the Karner blue butterfly (*Lycaeides melissa samuelis*) and Mitchell's satyr butterfly (*Neonymphe mitchelli*). The known occurrences of these 2 endangered species are in the northern portions of Lake and Porter Counties (Karner blue butterfly), and isolated locations in LaPorte and LaGrange Counties (Mitchell's satyr). The range of these species has not changed since our review of the 2006 gypsy moth program. Neither species is known to occur within or adjacent to the Btk sites identified in your letter, however the Willow Creek Btk treatment site in Porter County (765 acres) is within a mile of the Karner blue butterfly population in and around the Indiana Dunes National Lakeshore (IDNL). It is imperative that aerial spraying of Btk at the Willow Creek site be conducted in a manner that

will avoid any drift into the Karner blue butterfly population areas. IDNL staff can provide more information on the specific areas of concern. Treatment with Disrupt II pheromone flakes, which is considered to be highly specific for gypsy moths, will have no adverse impacts on the federally listed butterflies.

All of the Dimilin treatment sites (which are not federal actions and are therefore not subject to Section 7 of the Endangered Species Act) are limited to very small areas with application limited to selected trees and are not near any current endangered species occurrence records. Federally listed butterflies are not present at any of those sites.

Other Endangered Species

The proposed treatment sites are within the range of the federally endangered Indiana bat (*Myotis sodalis*), and federally threatened bald eagle (*Haliaeetus leucocephalus*). We do not anticipate adverse effects on bald eagles from any treatments at this time, because this species is not directly affected by any of the treatments and its forage base consists mainly of vertebrates.

Indiana bats hibernate in caves, then disperse to reproduce and forage in relatively undisturbed forested areas associated with water resources during spring and summer. Young are raised in nursery colony roosts in trees, typically near drainageways in undeveloped areas. Prior to hibernation, Indiana bats feed intensively in forested areas near hibernacula in order to build up adequate fat reserves to survive hibernation.

The diet of Indiana bats consists entirely of insects. Based on previous studies they appear to be somewhat opportunistic feeders. Some studies have found lepidopterans as a major dietary component, while others found a diet dominated by terrestrial Coleopterans or aquatic insects. Most of these studies were essentially "snapshots" and there is a lack of comprehensive, long-term research. It is possible that under some circumstances extensive elimination of a broad range of lepidopteran species over a large habitat area has the potential to adversely affect the food base of an Indiana bat nursery colony. This concern increases greatly with the use of Dimilin because it kills a much broader range of insects. None of the proposed treatment areas are near Indiana bat hibernacula. Most of the 2007 Btk aerial treatment sites are limited to relatively small areas of Indiana bat summer habitat, however based upon the aerial photos you provided we identified 2 sites where a substantial amount of suitable forested summer habitat occurs within an aerial treatment area. These sites are listed below in descending size of affected forest:

1. Hathaway site (Allen County, 1404 acre treatment area), 500 acres of forest (our estimate).
2. Willow Creek site (Porter County 765 acre treatment area), 150 acres of forest (our estimate).

The link between loss of a lepidopteran forage base for Indiana bats and adverse effects on the species is uncertain, therefore at this time we consider the likelihood of take to be discountably small. However, to minimize impacts on foraging Indiana bats we recommend that aerial spraying at the sites listed above be conducted as early as possible in the season. The Indiana bat

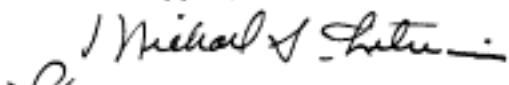
summer occupancy season is considered to begin in mid-April, probably slightly later in northern Indiana.

The FWS concludes that the federally assisted 2007 gypsy moth program is not likely to adversely affect any of these federally listed species, subject to the aforementioned concern about avoiding Btk drift toward the karner blue butterfly. If future federally-assisted programs incorporate large scale application of Dimilin, or propose BT aerial application over very large areas of Indiana bat summer or winter habitat, this issue will have to be reevaluated.

This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. If, however, new information on endangered species at the site becomes available or if project plans are changed significantly, please contact our office for further consultation.

For further discussion, please contact Mike Litwin at (812) 334-4261 ext. 205.

Sincerely yours,


For
Scott E. Pruitt
Field Supervisor

cc: Christie Keifer, Indiana Division of Fish and Wildlife, Indianapolis, IN
Katie Smith, Indiana Division of Fish and Wildlife, Indianapolis, IN
USFWS, Chesterton, IN
Philip Marshall, IDNR, PO Box 218, Vallonia, IN 47281



Indiana Department of Natural Resources

Division of Historic Preservation & Archaeology • 402 W. Washington Street, W274 • Indianapolis, IN 46204-2759
Phone 317-232-1645 • Fax 317-232-0690 • dhp@dnr.IN.gov

Mitchell E. Daniels, Jr., Governor
Robert E. Carter, Jr., Director



January 26, 2007

Philip T. Marshall
Forest Health Specialist
Division of Entomology and Plant Pathology
Indiana Department of Natural Resources
402 West Washington Street, Room W-290
Indianapolis, Indiana 46204

State Agency: Indiana Department of Natural Resources, Division of Entomology and Plant Pathology

Re: Gypsy moth eradication program for 2007

Dear Mr. Marshall:

Pursuant to Indiana Code 14-21-1-8 the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology ("DHPA") has conducted a review of the materials dated December 15, 2006, and received by the DHPA on December 21, 2006, for the above indicated project in Allen, Porter, Elkhart, Whitley, Delaware, and Marshall counties, Indiana.

Based on our analysis, it has been determined that no historic properties will be altered, demolished, or removed by the proposed project.

If you have any further questions regarding this determination, please contact Shana Kelso of the DHPA at (317) 232-3491 or skelso@dnr.IN.gov.

Very truly yours,

Ron McAlmon
Deputy Director
Department of Natural Resources
RMHATSNK@dnr.IN.gov

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**State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Water**

Early Coordination/Environmental Assessment

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| DNR #: ER-12526 | Request Received: December 20, 2006 |
| Requestor: Indiana Department of Natural Resources Phil Marshall Division of Entomology & Plant Pathology 402 West Washington Street, Room W290 Indianapolis, IN 46204 | |
| Project: 2007 Proposed Gypsy Moth Treatment Sites | |
| County/Site Info: Allen - Delaware - Elkhart - Marshall - Porter - Whitley Counties | The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969. |
| Regulatory Assessment: | Formal approval by the Department of Natural Resources under the regulatory programs administered by the Division of Water is not required for this project. |
| Natural Heritage Database: | The Natural Heritage Program's data have been checked. |
| | Overall, the approach to use mating disruption pheromone flakes, as opposed to Btk or Dim, in areas with natural habitat seems prudent. Although we have very little data on lepidopteran species in these areas, we know from surveys in similar habitats elsewhere, that rare butterflies and moths do use these natural habitats. |
| | Proposed treatment sites that will be treated using pheromone flakes, and that contain possibly sensitive habitat include Cedarville MD, Allen County. The 8.493 acre Cedarville MD treatment site encompasses Mono-Nki Nature Preserve within Moses County Park and a segment of the state designated Cedar Creek Natural and Scenic River. We have some concerns for impacts to native lepidopterans at these locations, but have no documented occurrences of any rare species within these areas. |
| Fish & Wildlife Comments: | The impacts of this gypsy moth control effort are impossible to predict. However, the devastating effects of uncontrolled gypsy moth infestations are well documented. Effects on non-target species are possible and care should be taken near areas that could possibly possess endangered or threatened species, or species of concern. The effects on target species will depend on a variety of factors and are impossible to predict with certainty. However, controlling the spread of this species is important to reduce the negative effects the caterpillars have on trees, particularly oaks. At this time, no harm to state or federal listed species resulting from the proposed control measures is known or anticipated. The potential harm from the project is less than the potential harm to these same species from an uncontrolled gypsy moth infestation. |
| | The US Fish and Wildlife Service will provide their own comments regarding the impacts to federally listed species, especially the Karner Blue (<i>Lycoides melissa samuelis</i>) and Mitchell's Satyr (<i>Neonympha mitchellii mitchellii</i>) butterflies that occur within counties to receive treatment. |
| | In addition to the recommendations above, fish, wildlife, and botanical resource losses as a result of this project can be minimized through implementation of the following measures. Ensure that Dimin does not enter the waterway in order to prevent detrimental effects to aquatic species (e.g. crayfish and macroinvertebrates). Time the application of Btk to maximize its effects on gypsy moth caterpillars. |

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State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Water

Early Coordination/Environmental Assessment

Contact Staff: Christie L. Standler, Enviro. Coordinator, Environmental Unit
Our agency appreciates this opportunity to be of service. Please do not hesitate to contact the above staff member at (317) 232-4160 or 1-877-929-3755 (toll free) if we can be of further assistance.

John Egan
John W. Egan

Date: February 2, 2007

Jon W. Eggers
Environmental Supervisor
Division of Fish and Wildlife